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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,947	02/20/2004	Shusaku Mandai	542-012.007	4799

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EXAMINER

SCHWARTZ, PAMELA R

ART UNIT PAPER NUMBER

1774

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/783,947

Applicant(s)

MANDAI ET AL.

Examiner

Pamela R. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/11/2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) 6-11 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 12 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☒ Claim(s) 1-12 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. Claims 1-5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuji et al. (Japanese Publication Number 01-156,597) in view of Hosoi et al (5,589,259) or Idei et al. (5,302,437). As stated in previous office actions, it is well known in the art to include inorganic pigments in ink receiving layers to provide ink absorption. The secondary references teach that synthetic amorphous silica is well known in the art for its high specific surface area, high porosity, and high ink absorption capability (see Idei et al. col. 7, lines 28-48 and Hosoi et al. col. 9, line 60 to col. 10, line 63 and example 1). Based upon these teachings, it would have been obvious to one of ordinary skill in the art to include synthetic amorphous silica in the recording layer of the primary reference in order to increase ink absorption characteristics.

2. Claims 1, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuji et al. (Japanese Publication Number 01-156,597) taken alone or in further view of Tomizawa et al. (6,224,971) and either of Hosoi et al (5,589,259) or Idei et al. (5,302,437) for reasons of record and for reasons given below. The new secondary references are relied upon as set forth in paragraph 1.

3. Applicant's arguments filed 4/25/06 have been fully considered but they are not persuasive. With respect to showings within the specification, the difference between the descriptions of X and O are insufficient to demonstrate any unexpected level of results between examples. With respect to the peeling strength, elimination of the zirconium compound would be expected to have a notable impact. One of ordinary skill in the art would have expected the zirconium compound to cross-link the polyvinyl

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alcohol resin. An increase in surface strength and peeling strength would be an expected result of this cross-linking reaction.

The examiner has also considered applicants' declaration and arguments related to particle size and the type of silica used. They are unpersuasive. Because the comparisons vary both the size and type of silica, it cannot be determined which parameter is responsible for differing results in the declaration. It is noted that there is a significant difference in particle size between Experiment 1 and Experiment 2 (comparison). It is unclear why particles of such different size were utilized for comparison when particles of 10 nm in size are within the scope of the instant claims. In order to attribute differences in results to the type of particle used, the particle sizes for comparison should have been substantially the same. At page 5, applicants' remarks attribute the difference in results to the particle size rather than to the type of silica. Yet both particle sizes are within the instantly claimed range. While the average particle size of the colloidal silica is smaller than that of the amorphous synthetic silica used in the experiments, the claimed particle size for the amorphous synthetic silica is smaller than the 22 nm of the colloidal silica, i.e. it is 10 nm. Therefore, this statement and argument do not support the patentability of applicants' claims.

It is also noted that while applicants argue the importance of pigment to binder ratio, this is not recited by any of the article claims.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz
July 7, 2006



PAMELA R. SCHWARTZ
PRIMARY EXAMINER